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LECTURES.

CLINICAL OBSERVATIONS UPON PARALYSIS FOLLOWING TYPHOID FEVER; PSEUDO-HYPERTROPHIC MUSCULAR PALSY; AMYOTROPHIC UNILATERAL SPINAL SCLEROSIS; AND OTHER CASES AT THE ORTHOPÆDIC HOSPITAL, PHILADELPHIA.

BY S. WEIR MITCHELL, M. D.

Paraplegia following Typhoid Fever. — This young girl presents a very interesting instance of paralysis after one of the essential fevers. Her clinical history is briefly as follows: She is now seventeen years of age. Two years ago she had a decided and protracted attack of typhoid fever. After a tedious illness she was quite weak, and convalescence was necessarily prolonged. She had some convulsive muscular movements in the lower limbs after the fever left her, and she recalls the fact that she vomited very much. Upon attempting to move the inferior extremities she found that they were completely powerless. When she came to us, last spring, the muscles were atrophied and contracted; the knees were semiflexed, and anchylosed in that position by fibrous adhesions. She was immediately put on strychnia, iron, and a liberal diet, while massage and the constant current were daily applied to the affected muscles. The false anchylosis was overcome by force, during etherization, and passive movements, and a Stromeyer splint was applied. She had always been exceedingly nervous while under observation. After two months' treatment she was discharged about the 1st of last July, able to walk without assistance. She then left us to go to her home in the country, and to-day returns, according to my request, to report her progress.

I now find that she has all the movements of the limbs, but the range seems to be limited. She does not kick very strongly; we notice that she is getting very nervous under our close observation, and has a general hysterical tremor. She can walk without aid, and tells us that her limbs are a great deal stronger, and have kept on steadily improving since I saw her last. Her strength must, indeed, be much increased to enable her to stand without assistance, and with the knees partially flexed, as they are at present. The Stromeyer splint she still wears at night, and the gymnastic exercise of legs, on the Swedish movement plan, is still kept up. She has manifestly improved, but from her pallor it is evident that she still needs tonics. In combination with iron I am very apt to give one of the three valerianates — either of iron, zinc, or strychnia — to cases of general nervousness, or hysteria. Perhaps the following prescription will answer the purpose, and be more suitable for hospital patients, as it is comparatively inexpensive: —

℞ Zinci valerianatis,
Ferri tartratis . . . . āā gr. ij.
M. Ft. pil. Sig. Capiat ter in die.

Her mother says that the patient is troubled with constipation. For this I recommend that she take each morning, on rising, a tumblerful of water containing in solution a teaspoonful of common salt. The water must be cold, or it will be apt to nauseate. This simple aperient I frequently employ in cases of constipation, and generally find it efficient. There is a great advantage in starting the bowels and in keeping them in a soluble condition, particularly in cases of nervous disorder in women, as it sometimes clears up obscure points in the case, and at all events eliminates one source of error.

The hysterical element in this patient, which has been previously remarked, has complicated both the diagnosis and the treatment. There is evidently a spinal affection present, in all probability connected with some degeneration of the cells of the grey columns of the anterior cornua. It is an organic affection painted upon a hysterical background.

Pseudo-Hypertrophic Muscular Paralysis. — The appearance of unusual physical development seen in this girl, more particularly observed in the lower extremities, is not accompanied by a corresponding increase in muscular power, but, on the contrary, in her attempts to use the limbs in walking it is only too evident that there is a positive impairment of strength. This affection began insidiously when she was about fourteen years old, and, to all appearances, in perfect health. She first noticed a slight difficulty in trying to stand still; she could not steady herself, but swayed backward and forward when the feet were together, — a trouble, apparently, of muscular coördination. This symptom became more aggravated, and soon, whenever she essayed to walk, she would stagger from side to side, had difficulty in checking herself, and constantly ran against articles of furniture or whatever was in her path. She had festination in walking, and in going across a room would miscalculate the distance and come violently in contact with whatever object she tried to reach. This symptom, she tells us, is still present; the rocking and staggering have not grown any worse. She was also very apt to drop anything that she attempted to hold or carry in her hands. There was no numbness, and no pain in the limbs.

Headache, probably migraine, she had always been subject to; formerly these attacks came on about every two weeks, and were always followed by fever and vomiting; at present they are less frequent. She never experienced any ocular trouble; she considers herself in good health in every other respect than the symptoms just indicated.

Upon referring to the patient's record book, I find that this patient first applied at this hospital for treatment on the 8th of March last. Her face was then pale and puffy; her speech accentuated and hesitating; her lower limbs were large; and when placed supine upon the floor, she experienced the characteristic difficulty in attempting to regain the erect posture. Her face flushed readily under excitement, and her pulse was quick, but the hands and feet were generally cold. She slept well. The eyesight wavered a little; there was no hemiopia, but she sometimes had double vision. Hearing was good; at one time she had been much annoyed by noises in the ears, which had now passed away. Upon examination we found that there was sometimes true vertigo; she was most unsteady when standing with the heels together; rocking the knee produced muscular contractions. Upon closing the eyes the unsteadiness greatly increased. In the affected limbs sensibility to the faradic current was much diminished. The urine was not albuminous. An ophthalmoscopic examination gave only negative results. Under the treatment to which I will presently refer, her general health greatly improved, and her appearance gradually became more natural. The following measurements were made at a subsequent visit (November 29, 1878): —

		Left.	Right.
Lower extremities	8 inches above lower margin of patella	16¾	16¾
	4 inches below lower margin of patella	14⅛	14⅛
Upper extremities,	4 inches above the insertion of biceps, arm semiflexed	10¼	10½

This case brings up for discussion some very interesting points in the pathology and treatment of pseudo-hypertrophic muscular paralysis.

I have seen seven cases of this disease. In five there was a syphilitic history in father or mother, yet a specific treatment was as useless as it commonly is in cases of locomotor ataxia, having also a possible syphilitic factor. The inutility of anti-syphilitic therapeutics under these circumstances has been disputed, but I am sure that it is true of my experience in ataxia and pseudo-hypertrophic palsy. Indeed, the previous existence of syphilis is too often taken as an assurance that specific treatment will be of use in sequent disease. I do not remember one success arising out of the presumption of syphilis as a parent of sclerosis. I have come to doubt the parentage, or to fancy that it might be due to syphilis, and not be itself a syphilitic phenomenon, a thoroughly reasonable suggestion to my mind. I do not mean to discuss the pathology of the disorder now before us. It is as yet unsettled, and may be safely left to that great discoverer, the future; but I will remind you in passing that I have described areolar tissue hypertrophies owing to injuries of nerve trunks, which latter may therefore cause either wasting or overgrowth. The combination of circumstances causing the latter must be rare. They may possibly be made up of a grouping of constitutional states and local nerve troubles. This seemingly simple problem we have not yet solved, and the deeper and darker one of the causation of progressive intra-muscular areolar hypertrophy is also unsolved.

All treatment is useless here. The disease has, however, a slow march, and sometimes halts, as one may do who, having an inevitable staircase to descend, lingers on certain steps a while. I have found it useful to put on apparatus mechanically to support the spine and legs, when the time came that locomotion unaided was about to end.

Amyotrophic Unilateral Spinal Paralysis. — This man, thirty-six years of age, presents a peculiar paralysis of the right leg and arm, evidently due to a spinal trouble. For his history and treatment I must turn to the notes. He first applied for treatment September 27, 1878. He then told us that he had worked in lead paint for twenty years. He positively denied venereal infection. Three years before, in the spring of 1875, he had been attacked, without assignable cause, with pain, which began in the right elbow, and ran up the back of the arm to the shoulder, through the shoulder blade, and down again. The pains were sudden, and of a sharp, acute character. This malady continued for two years without much change, but one year before I saw him he had been compelled to give up work on account of pain and weakness in the arm. The muscles of the shoulder blade were decidedly atrophied. There was a slight rhythmic tremor of the right hand when at rest, but it was not increased by efforts at voluntary motion of the part. He never had any other symptoms of lead poisoning, and he did not exhibit at any time a blue line on the gums. He was somewhat dyspeptic, but his general health and strength were good. Walking gave rise to trembling of the shoulders and pectoral muscles, and caused the tremor in the hand to become greater and oscillatory (pendulum movement). He also complained of shooting pains through the head, and stated that he always had headache after eating. He occasionally had tinnitus aurium. In talking he felt as if something were catching him in the throat; there seemed to be a laryngeal spasm which affected his speech. While standing, there appeared, upon pressure with the finger, to be a tension involving all the muscles of the right side of the body, but varying in amount. This was increased when he walked, and, owing to this muscular contraction, he was drawn over somewhat to the right, and the great toe and the next two toes on the right foot were drawn towards the sole. The ribs upon the right side were pulled together, as if the intercostal muscles were affected by spasm. When the abdominal or thoracic muscles were struck on the right side there was an unusual contraction of the fibres; this local spasm was not well marked on the left side. The right foot dragged in walking. The right thumb was drawn into the palm of the hand, but this relaxed when the patient went to bed; while walking, however, the thumb muscles contracted so firmly that the nails frequently cut the palm of the hand.

The urine was not albuminous. O. D. Ophthalmoscopic examination showed deep physiological cupping with pulsation of veins. Cribriform fascia sharply defined; outlines of disk somewhat indistinct. Relation of veins to arteries normal. O. S. Cupping deeper, otherwise the same as the preceding. He had no difficulty in swallowing, but had been subject to pyrosis and vomiting.

He has been taking, since October 4th, elixir quiniæ, ferri, et strychniæ phosphatis, a drachm thrice daily; with cod-liver oil, a tablespoonful, after meals. On the 25th of October, it was noted that his digestion had improved. The grip of both hands was alike, and satisfactory as tested by the dynamometer. The trembling was much less marked. The right leg did not drag in walking. The muscles of the right side now gradually lost their condition of tonic contraction, and the large tremor had disappeared by November 1st. He had so greatly improved that he could read the newspaper, which before was rendered impossible by the shaking of the paper by the hands, the left arm being shaken by the active movements of the right. He said that he felt very well until he ate his meals, after which he was liable to regurgitation, headache, and pain across the shoulders.

We find now that the improvement has been permanent, and that he really seems to be getting well.

This case, you perceive, was marked by a slight and quite equal general atrophy confined to one side, but most marked in the arm, neck, and shoulder; by distinct tonic contraction of numerous muscle-groups; by exaggerated reflex motility. Except in the fact of being one-sided, the case corresponds to the picture of amyotrophic lateral sclerosis drawn by Charcot's master hand. There is, of course, no reason why the disease may not exist on one side only, but I never saw such a case before.

There is, also, or was, fibrillar muscular contractions, and a fine, constant tremor, not always found in this disease, while the conversion of this trembling into large, sweeping, pendulum-like swings of the right arm during walking, and then only, is also curious and most unusual. We are at once reminded that the swing of the arms during walking is normal, and that therefore these singular convulsive exaggerations of a natural act are, so to speak, provided for in our locomotor mechanism, and are of the nature of one of the forms of functional spasm, which I described very fully in the *American Journal of the Medical Sciences*, October, 1876.

I can hardly regret that the great gain made by our patient should have partly spoiled the interesting clinical picture of disease he presented but lately. Even yet there is much to notice. You observe as he stands that the facial muscles on the right side are drawn into triple curves about the right angle of the mouth; that the occipito-frontalis is slightly contracted all the time, so as to give a queer, one-sided expression of surprise. At the same time the head is bent to the right, the right shoulder pulled down, the trunk flexed to the right, and even bent on the pelvis. Note also the slight halt on the right leg; the general wasting of the arm, face, and shoulder; the absence as yet of like loss in the leg. The tremor of the arm is very visible, but walking no longer exaggerates it into large spasm, as it once did.

There can, I think, be no doubt that this case is due to disease both of the lateral columns and of the gray matter of the anterior columns, and that the permanent basis of the trouble is a sclerotic alteration of portions of these regions; neither have we any reason founded on experience to hope in such a case for any result but a gradual extension and deepening of the disease, until death ends the long torment after years of sickness.

We have here, it is true, a case of one-sided disease, an unusual form of the malady, and also there does seem to have been a gain so great as to shake one's confidence in the absoluteness of the diagnosis. There are, however, two points to which I would like to call your attention: The man was thin, feeble, anæmic, ill fed. He was ordered a full and systematic diet, and was given malt extract, cod-liver oil, iron, and arsenic. With the gain in general health there has been a very remarkable improvement in the symptoms believed to be due to the spinal malady, and this is, I think, a not uncommon case, and is competent to explain almost all of the gain by treatment which we are able to show in these terrible sclerotic alterations of the spinal cord and brain. I do not mean to assert that sclerotic changes in the cord are never cured, but I incline to think that when once well developed the most we dare hope for is an arrest of the disease, and I certainly as yet have never seen a cure in a typical case of advanced posterior sclerosis. I am even willing to go further than this and to say that while I have seen posterior sclerosis (locomotor ataxia) — and I use this as the type — arrested, and have seen it remain unaltered for long periods, reaching in one case to twenty years, I have never been assured that such arrests were due to the therapeutic means employed. The appearance of an exceptional therapeutic success in single cases must always awaken doubt. Yet the very fact that such arrests do occur spontaneously must ever encourage us to hope that we shall some day learn to control the conditions which must be present in order to insure the permanent checking of the malady.

I have alluded above to the fact that attention to the general health offers the best chances of helping sclerosis in all its forms, and that on this account more is to be hoped from the use of change of air, cod-liver oil, malt extract, and the mechanical tonics, such as massage and electricity, than from drugs supposed to have a more specific value.

Another reason for the false encouragement to be had at times out of the clinical history of scleroses of the cord, and especially out of locomotor ataxia, is the fact that besides the definite sclerosis, with the equally definite mischiefs it causes, there is another coincident element of trouble which varies. This is probably a congestive state, and may with reason be supposed to exist in and about the sclerotic patches, and perhaps elsewhere. I think this element of ataxic cases has been quite too much overlooked, but to it we must turn for an explanation of the sudden increase or lessening of symptoms, and to the false appearance of gain in many cases of posterior sclerosis. I have over and over seen cases in which there was for a time complete ataxy of both arms and hands, so that no useful motion was possible, and I have seen this condition almost entirely disappear for months or even years. In one gentleman, now in my charge, this loss and gain has taken place twice, and each time there has been left a larger residuum of permanent mischief.

Whatever be the varying element of trouble in posterior sclerosis it is influenced largely by exercise, which, whenever it is extreme, is apt to be hurtful to such cases. This is why some ataxics are always best on rising from the night's sleep, and why, especially in the earlier stages of ataxia, long periods of absolute rest are so useful. I have already described elsewhere the influence of repose on some of the phenomena of this disease, and it is perhaps enough, here, to remind you that I have over and over seen the neuralgia of this disease pass away permanently, or for long periods, owing to rest in bed for two months.

A CASE OF INVERSION OF THE UTERUS OF NINE MONTHS' STANDING.[1]

BY E. H. STEVENS, M. D., CAMBRIDGE.

Mrs. C., aged twenty-two years, French Canadian, was first seen by me September 18, 1876, when she presented the following history: She menstruated for the first time at the age of thirteen years, and continued regular and in robust health. She married at the age of twenty. Eight months afterwards she became pregnant, and went to full term. She first began to have pains January 18, 1876. The pains continued five days and nights, being severe enough to prevent sleep. January 23d she was delivered of a large female child, the second stage of labor lasting sixteen hours. A physician was constantly in attendance during this time. Owing to the protracted nature of the labor, the harassing pains, and the loss of sleep, she had become much exhausted. Two hours after the birth of the child, the placenta not being delivered, the physician passed his hand into the uterus and removed it, at the same time stating to the family that "it had grown to the side." Very profuse hæmorrhage followed, with loss of consciousness for a short time. Severe after-pains occurred throughout the day, accompanied by spells of fainting. A constant oozing of blood continued, notwithstanding the free use of ice and other remedies. The pains subsided in twenty-four hours, but the flowing continued in a more than normal quantity for three days, being at times severe. At the end of that time the flowing became less, and the patient was comfortable, suffering only from weakness. A good supply of milk was secreted, and she was able to nurse her child. Three weeks after confinement she got up to have her bed made, when flowing again set in, lasting with more or less severity for about three weeks. After this time there was but little discharge, and she began to gain strength. She sat up with her wrapper on when her baby was ten weeks old, and was very soon able to be about the house and attend to her domestic duties. From that time up to the present she has had an almost continuous sanguineous discharge, to control which various kinds of treatment, both local and general, have been tested by different physicians familiar with the case. One had applied cotton saturated with a preparation of iron, which controlled the hæmorrhage for five weeks. Another, supposing the trouble to be falling of the womb, introduced a rubber ring-pessary. This she was wearing when I first saw her. Although able to be about the house and nurse her infant, her face and lips were of a chalky whiteness. Her appetite was good. At times she had trouble in seeing, and dizziness. A distinct murmur was noticed over the apex of the heart, which was increased on slight exertion. On making a vaginal examination, a tumor as large as a small orange was found low down in the vagina, and resting on the perinæum, easily movable in all directions. It could be freely handled without causing pain, the surface being rough and having a spongy feel. If scraped with the finger this roughness came off, leaving a smooth and shining mucous membrane underneath. After a somewhat careful and prolonged examination I satisfied myself that I had to do with a case of inversion of the uterus.

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[1] Read before the Boston Society for Medical Observation, October 7, 1878.

The next day, September 19th, Drs. J. L. Hildreth and H. E. Marion saw the case in consultation, and verified my diagnosis. She being at once put under the influence of ether, and laid upon her back, with the knees drawn up, the diagnosis was made absolutely certain by passing the right hand into the vagina and pressing up the entire mass, with the left hand pressing down from above the pubes. In this manner the absence of the fundus of the uterus could be easily made out. Instead of the fundus of the uterus a distinct ring could be felt, into which the finger could be pressed, and the outlines of the broad ligaments could be made out. An attempt at reduction was now begun in the following manner: The uterus was grasped between the thumb and finger, the fundus resting in the palm of the hand; firm pressure was made from within the vagina, while the left hand steadied and supported the uterus from above the pubes. The fingers of the hand within the vagina were used as a wedge to dilate the cervix, after the plan described by Dr. Emmet in a case published by him in 1868, in the January number of the *American Journal of the Medical Sciences*, page 91.

After one hour and three quarters the cervical canal was sufficiently dilated to allow the fundus to be pushed very nearly within the uterine cavity. The state of the patient was such that it was deemed wise to discontinue any further attempt at reduction at this time. The state of the organ had entirely changed; from being hard and unyielding, it had become soft and pliable, and apparently not more than two thirds as large. To secure what had been gained, a rubber air-bag was applied, the fundus being pushed up as far as possible. Reaction from the ether came on slowly, but in twelve hours the patient's condition was about the same as before the operation. The air-bag was kept in position sixty hours, being removed twice, and an injection of warm carbolized water used. In reapplying the air-bag care was taken to have the fundus pushed well up into the uterine canal. At the end of sixty hours ether was again administered, the patient being in a fair condition, the pulse being 120 per minute. Drs. Hildreth, Marion, and W. W. Dow were present, and rendered valuable assistance. On removing the air-bag the uterus at once dropped into the vagina, but could be pushed into the canal again, so that the condition seemed about the same as when the last operation was abandoned. For two hours I continued my efforts to reduce the organ when the fundus was entirely within the canal, the cervix coming together over it. It appeared to all present that complete reduction would be accomplished in a very short time. I was, however, obliged to desist on account of the patient's condition, she having a pulse of 160, with difficult respiration. Not wanting to lose anything we had gained, I determined to adopt Emmet's plan of passing sutures through the cervix, and thus keep the fundus within the uterine canal. Four deep, interrupted silver-wire sutures were passed through the neck of the uterus and twisted, bringing the sides of the cervix together. In two hours the patient had reacted from her ether, and was left comfortable. One hour and a half after leaving the house a messenger came for me in great haste, saying that the woman was dying. I reached her bedside in a short time, to find her a little faint, but otherwise comfortable. The nurse reported that about one hour before very severe pains came on in the lower part of the abdomen, extending through to the back. They were described as like labor pains, but much more severe. After lasting three quarters of an hour something was felt to give way inside, when all pain suddenly ceased, leaving only faintness behind. This soon passed away, and she said that she had not felt so well before for months. The pulse was good. There was tenderness above the pubes. One eighth of a grain of morphine was ordered every two hours, with hot fomentations. At my next visit, six hours afterwards, the pulse was found to be good; micturition somewhat difficult; less tenderness than at last visit; no tympanites. She had vomited several times, and felt sleepy, but could not sleep. Morphine was administered less frequently, and fomentations were continued. On visiting her the next morning she was reported to have passed a comfortable night, getting several hours' quiet sleep; pulse less than 100, temperature 99° F.; very little tenderness over any part of the abdomen. She said that she felt well enough to get up. No vomiting since the previous evening. The stomach retained beef tea and milk punch. She had to wait some time before she could pass water. Morphine was discontinued. Not feeling sure that the uterus had replaced itself, although all the symptoms would warrant that supposition, I thought it best to wait until the next day before removing the stitches, when I could have assistance. Accordingly, on the morning of the 22d, Drs. Marion and Dow being present, ether was again administered, and the stitches were removed, when we found that the organ had entirely regained its normal position, the fundus being plainly felt from above the pubes. The cavity of the uterus, as measured by the Simpson sound, showed a depth of three and one quarter inches. From this time all hæmorrhage stopped, and she gained steadily. At the end of six days she was sitting up, and in ten days walked out, contrary to my advice. The following February menstruation appeared naturally. The family soon after moved to a distant part of the State. I learned by a letter from the husband, dated February 10, 1878, that his wife had a fine boy, born in January, and that she was in perfect health.

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A NEW MICROTOME.[1]

BY S. W. FLETCHER, M. D., PEPPERELL, MASS.

SEVERAL years ago, wishing to make some thin sections of animal tissue, and not having the educated hand, I set about devising an instrument for doing such work. The conditions to be fulfilled appeared to me to be: to attach the cutting blade to a carrier so arranged as to draw repeatedly the edge of the blade over the specimen with any desired inclination and in exactly the same course; to prevent every part of the blade, except the edge actually cutting, from touching the preparation; to immerse the object in alcohol or other preservative fluid whilst being cut; and to approach the specimen to the blade to any desired extent, the whole instrument being made heavy and firm enough to prevent any considerable trembling under ordinary use. These conditions I have endeavored to fulfill in the following manner: —

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[1] Shown to the Boston Society of Medical Sciences, November 30, 1878.

X X, Figure I., is a wooden frame sixteen inches in length, eight inches in width, and five and a half in height; to the top of this is clamped the wooden bar R R by means of the bolts 6 and 7, which pass through the slots cut in the arms which project from each end of it. B is a piece of thick plate-glass cemented to the side of the bar R R, and C and D are similar pieces of glass cemented to the top of the frame X X. In the centre of the frame is the brass pan E. Near the centre of this pan is a well, one inch in diameter and two inches deep. At one side of the well is a clamp 4, which by the screw 1 is pressed tightly against the specimen O to be cut. Over this pan is the iron tripod T T, beneath which is suspended a brass plate A by means of the bolts 8 and 9. This plate is made to incline more or less towards the glass plate C, and is fastened firmly in position by the set screws 11 and 12. By these any desired inclination can be given to the cutting blade, which is clamped to the under surface of the plate A. I have commonly used a wide Le Coulter razor blade for cutting. The legs of the tripod have ivory pins driven firmly into holes drilled deep in their ends; these pins project one fourth of an inch, and their points, 3, 4, 5, rest on the glass plates C and D. From the sides of two of the legs ivory pins project in the same way, and their points, 1 and 2, rest against the glass B. The opposite sides of the well are grooved on their outer surfaces, and in these grooves rest brass guide pieces which

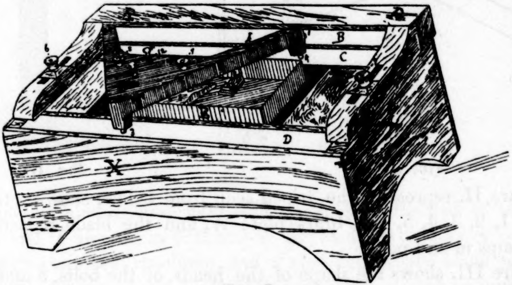

Fig. I.

are firmly bolted to the frame X X, and connected with these guide pieces is a screw, the point of which presses against the lower part of the bottom of the well. The threads of this screw are forty-eight to the inch, and the circumference of its head is divided into fifty equal parts.

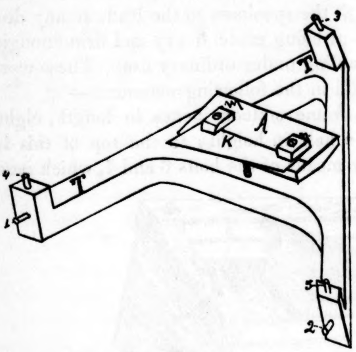

FIG. II.

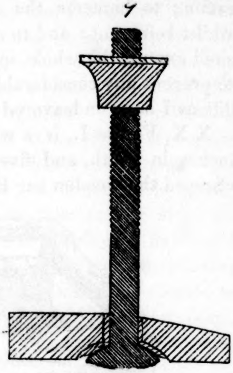

FIG. III.

Figure II. represents the tripod seen from below, showing the ivory points 1, 2, 3, 4, 5, the brass plate A, and the blade K fastened by the clamps m and n.

Figure III. shows the shape of the heads of the bolts 8 and 9, Figure I., and the manner in which they are let into the plate A.

Figure IV. represents a section through the pan E, showing the arrangement of the well W, clamp L, screw I for tightening the clamp, and screw F for raising the pan. H is a rubber tube, leading from the bottom of the well, for drawing off the alcohol in the pan after using the instrument.

Figure V. represents the frame X X seen from below, showing the pan E, well W, screw F, rubber tube H, and brass guide pieces g g, and the manner in which they are attached to the frame.

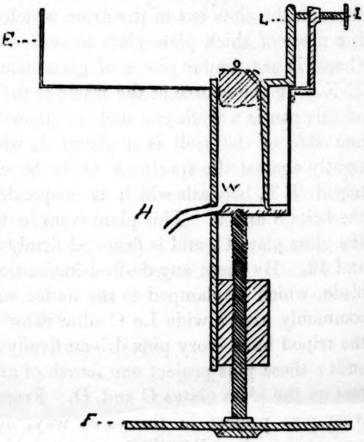

FIG. IV.

The ivory points being well oiled, fill the pan with alcohol, so as to cover the top of the specimen O; place the tripod over the pan, and as far to the left as possible; turn up the screw F until the top of the object to be cut reaches the blade; shove the tripod forward from left to right, and the blade will shave the top of the preparation; draw the tripod from the glass B for half an inch, or raise the leg of the tripod resting on D half an inch; it can then be pushed to the end of the glass plates from which it started without the knife touching at any point. Now let the tripod approach the glass B until the points 1 and 2 touch the glass; turn the screw F so as to elevate the pan more or less, according to the desired thickness of the section; again repeat the moving of the tripod as already described, and a section is obtained of uniform thickness and of any desired thinness the blade is capable of cutting. With a well-hardened specimen and a very thin, sharp blade sections three fourths of an inch wide, one inch long, and $\frac{1}{2400}$ of an inch thick can readily be made. Very delicate objects need to be imbedded in wax or paraffine; ordinary ones are held by the clamp L without any such preparation.

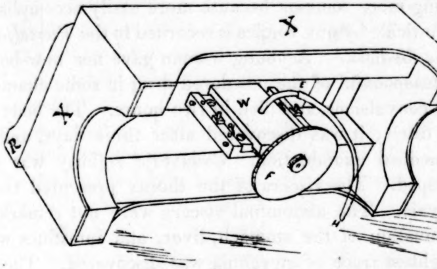

FIG. V.

The whole instrument weighs about sixteen pounds, and costs about twenty-five dollars, not including the blades. The cost of four or five blades is not far from five dollars, or one dollar each.

RECENT PROGRESS IN FORENSIC MEDICINE.[1]

BY F. W. DRAPER, M. D.

Cases of Interest from a Medico-Legal Point of View. — (1.) A Norwegian sailor, twenty-five years old, was admitted to the Bristol (England) Royal Infirmary,[2] with the following injury: He had received a penetrating wound of the brain, inflicted with an ordinary clasp knife with a blade three inches long and seven eighths of an inch wide; the blade did not lock, and its whole length entered the brain, piercing the skull in the squamous portion of the left temporal bone, through a thickness of a little more than one eighth of an inch of dense bone, and in its passage through the brain dividing the left middle cerebral artery half through, about an inch from its origin. The hæmorrhage was free from the external wound. There were convulsions confined to the left side of the body; the pulse ranged from 100 to 188; six hours after the injury the breathing took on the Cheyne-Stokes character. Death occurred twenty-one hours after the wound.

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[1] Concluded from page 225.

[2] Medical Times and Gazette, September 28, 1878.

(2.) The poisoning of a new-born child with nux vomica must be reckoned an unusual occurrence in forensic medicine, other methods of infanticide being more common because more easily accomplished. An instance of infanticide by nux vomica is recorded in the *Vierteljahrsschrift für gerichtliche Medicin.*[1] A young woman gave her new-born illegitimate child a teaspoonful of the powdered drug in some chamomile tea. The child had convulsions, and died in two hours. The body was then thrown into a ditch; it was discovered after three days, and was submitted to a medical examination. Cadaveric rigidity was still very strongly developed. The viscera of the thorax presented the appearances of asphyxia. The abdominal viscera were not remarkable. A chemical examination of the stomach, liver, and intestines was made, but not the slightest trace of strychnia was discovered. There was no doubt of the cause and manner of the death, for the mother confessed her crime.

(3.) Professor Friedberg, of Breslau, reports a case [2] which he considers as the only one of its kind on record. A woman taken in labor with her third child sent for an unlicensed midwife whom she had engaged to attend her. At about midnight this midwife discovered a hand presentation; she made repeated violent traction on the hand and arm during the next two hours, at the end of which time the arm came away. She then introduced her hand, and worked it around for about five minutes, causing great pain to the mother, who, unable to bear it longer, sprang out of bed. While the patient was sitting on the edge of the bed the child was rapidly and easily expelled without any assistance. The case became a subject for judicial investigation. An autopsy of the child's body was made, at which it was determined that the infant was mature, strong, and healthy. The left arm and scapula were separated from the body with much laceration of muscle and effusion of partly coagulated blood. The left ribs, from the fifth to the ninth, were fractured near their anterior ends, the superjacent muscles being much bruised. The lungs sank in water, and no air issued on dividing them under water. The necks of the seven upper ribs were broken. Professor Friedberg concluded that the child's death was due to hæmorrhage and contusion, the result of injuries received while it was still living, though before it had breathed, the latter point being determined by the coagulated state of the blood in the neighborhood of all the lacerations, while the separated arm was swollen by effused blood, and was of a color indicating obstruction of the circulation during life.

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[1] London Medical Record, vol. xxv., December 15, 1878.

[2] Vierteljahrsschrift für gerichtliche Medicin, April, 1878.

(4.) Dr. T. MacLoughlin, surgeon of the Inman steamer City of Chester, gives the notes of a case of survival after eleven days' fasting.[1] The steamer sailed from Liverpool September 24th, and arrived at New York October 4th. When the hatches were removed the stevedores found beneath them a man lying, insensible, on the freight. After the taking of stimulants and small quantities of liquid food, he revived somewhat, and was sent to a hospital. He was greatly emaciated, cold, and nearly pulseless. After five days' careful tending he was convalescent.

His story was that he had secreted himself as a stow-away in the hold of the vessel on the evening before sailing. He had nothing to eat or drink during the whole voyage. He found some salt in the hold, of which he took about two handfuls. He had in his pocket a small glass flask; from this he said he drank his urine each time he voided it. He felt hungry until the second day only; after that there was intense thirst for four days. He shouted for help each day, until at length he became insensible, and remembered nothing till he found himself in the hospital. [The duration of the abstinence in this case is shorter than that recorded in a few other instances, wherein the sufferers survived enforced fasting; but considering the circumstances of confinement under closed hatches, the authenticity of the observation, and the remarkable means taken by the patient to relieve his hunger and thirst, the account deserves mention. — REP.]

RECORDS OF THE BOSTON SOCIETY OF MEDICAL SCIENCES FROM DECEMBER, 1877, TO FEBRUARY, 1878.

JAMES J. PUTNAM, M. D., SECRETARY.

TUESDAY, DECEMBER, 18, 1877. — DR. BOWDITCH read a paper upon the *innervation of the apex of the frog's heart*, to be published elsewhere at length.

It had been found by Merunowicz that when a ligature was placed round the ventricle of the frog's heart, the portion containing the apex continued to beat independently of the rest, from which it had been concluded that this part has a distinct nervo-motor apparatus of its own. Bernstein, on the contrary, had found that when on a living frog this portion of the heart is separated from the rest by a strong pinch, which crushes without cutting the tissues, it ceases to beat rhythmically, though it will still respond to stimulation from without.

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[1] Lancet, November 2, 1878.

This inactivity might possibly be explained by supposing it to be due to the inhibitory action of the bruising, in which case it would pass away after a time. In order to test this point Dr. Bowditch had repeated the experiments of Bernstein, but had kept his frogs alive for a longer time, in one instance upwards of twenty days, after the operation. In every case but two the observations of Bernstein had been confirmed, and in these he showed reason for believing that the apex had begun to beat again as a result of the reëstablishment of the nervous communication between the upper and lower half.

Dr. Amory asked if, in the experiments of Dr. Bowditch, the supply of nutrient fluid was not cut off from the apex of the heart by the pinching.

Dr. Bowditch replied that the frog's heart was capable of nourishing itself rather differently from that of other animals, namely, by imbibition. In further reply to Dr. Amory, Dr. Bowditch said that he considered it as uncertain whether in fact the rhythmical movements of the heart might not occur independently of motor ganglia; also, that the dilated condition of the heart in these experiments was not due to the engorgement of the muscular substance with blood, as was evident from the fact that the contraction could be brought about readily by stimulation from without, and further, that no such engorgement occurred unless the endocardium was ruptured.

In reply to Dr. Jeffries, Dr. Bowditch said that the muscular fibres were apparently actually crushed at the point pinched, though he had made no examination to test the question.

Dr. Putnam spoke of the fact, which had been noticed by himself and one or two others, that when objects are regarded through the microscope by the left eye the color appears brighter, while at the same time the form and other peculiarities of the object are studied and its motions followed with less ease, than with the right eye. He believed it to be due to the same cause that Helmholtz has assigned for the fact that the colors of the landscape look brighter when the head is turned on one side.

In reply to Dr. Bowditch, Dr. Putnam said that he did not think that the phenomenon was one of fatigue and rest, since a return to the use of the right eye was not attended with a renewed brightening of the field, certainly not to the same degree as in the other case.

Tuesday, January 15, 1878. — **Dr. Putnam** read a paper upon the *physiological position of the so-called motor centres of the brain.* The so-called "motor" centres were explained to be the seat, not of exclusive representation of the muscular system of the body, but of their "predominant representation" in the sense of Dr. Hughlings Jackson, that is, the parts of the cortex which stand most directly in connection with the motor nerve tracts of the crus cerebri and spinal cord.

Similar centres of "predominant representation" exist, no doubt, for the nerve tracts concerned in the transmission of impressions of sight, hearing, etc., and in fact the cortex may, speaking roughly, be regarded from the physiological point of view as consisting of a number of cones, having a common base but separate apices, the overlapping parts of the cones corresponding to those parts of the cortex where the various special functions are correlated together, and which are not therefore exclusively sensory or motor in point of function.

The movements called out experimentally and through disease by excitation of the "motor centres" are relatively simple or fundamental in character, representing, as it were, the average of all possible movements of the part concerned, and are not the movements which are characteristic of the highest efforts of the will, but are rather, one might say, such as are relatively automatic so far as the individual is concerned.

Mr. C. S. Minot gave an account of his experiments on the exhaustion of muscle made last year in the physiological laboratory of the Medical College.[1] The object of the experiments had been to determine *in what manner the exhaustion progresses during tetanus produced by secondary induction currents.*

By means of a very complicated apparatus it was possible to regulate with exactness, first, the duration of the periods of irritation; second, the number and strength of the stroke sent through the muscle per second; and, third, the distribution of the intervals of repose during the experiment. The muscle investigated was the gastrocnemius of pithed frogs.

The results of the extended experiments may be summarized as follows: the muscular contractions produced were found to depend upon two hypothetically assumed variables, namely, the irritability and the degree of exhaustion. The magnitude of these quantities was found, as far as the experiments are conclusive, to increase with work and diminish with repose. Thus, in a perfectly fresh muscle a given submaximal irritation produces an incomplete contraction, but causes a great increase in the irritability, and adds a little exhaustion, so that the next contraction following upon the same strength of irritation is higher than the previous one, and so each contraction is greater than the preceding until a certain maximum is reached.

Every series of contractions beginning with the muscle in a fresh condition increases in height at first. This phenomenon occurs equally when the muscle performs a series of twitches (Zuckungen), or when it makes a tetanic contraction, and is probably essentially identical with the "Treppe" described by Dr. Bowditch in his memoir on the tip of the heart. This peculiarity may be simply termed the ascent; it has hitherto not been recognized as one of the essential phenomena of the functional activity of muscles. It marks the period during which the increase of irritability outweighs the exhaustion. After the maximum is reached, the contractions begin to fall off, because the accumulated exhaustion gradually obliterates the effects of the increased irritability.

This progressive exhaustion has long been known and often investigated. Whenever a muscle reposes it is restored to a fresher condition, so that the contractions become higher; or it may even be so very far restored that it arrives at the beginning of the ascent, and the effect of its increased irritability is eliminated. There are many interesting points which must be omitted in this abstract, but it seems desirable to emphasize the fact that a certain amount of work, instead of exhausting the muscle, puts it in a condition to do a greater amount of work in response to the same strength of irritation.

The difference between tetanus and a series of single contractions or twitches is merely one of time, that is, of the length of the interval between the single shocks. This Mr. Minot endeavored to prove by detailed comparisons.

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[1] See Journal of Anatomy and Physiology.

Finally, it is to be added that when a muscle is made to contract it does not regain its original length completely unless elongated by exterior force, a muscle not being very elastic, as is commonly supposed, but, on the contrary, exceedingly plastic. The rate at which a muscle lengthens out again diminishes as the height and number of the contractions increase. Hence it is that when a series of induction shocks follow one another through the muscle at regular, short intervals, they at first produce muscular twitches, but afterwards, when the elongation of the muscle is slower, they apparently fuse together and form a tetanus. The fact that muscles do not naturally elongate of themselves explains the distortion produced by paralysis of one side of a limb, for then the muscles on the sound side contract and never elongate completely, because the antagonistic muscles, which normally pull them out again, are thrown out of action.

In conclusion, Mr. Minot expressed his thanks to Prof. H. P. Bowditch, through whose kindness he had been enabled to carry out these investigations.

In reply to a question from Dr. Putnam as to whether anything corresponding to these phenomena is observed under normal conditions, Mr. Minot referred to the increasing irritability of the eye which follows the opening of the lids after sleep.

Dr. Garland asked, with reference to an expression used by Mr. Minot, whether it was proper to speak of muscles as lengthening by virtue of their elasticity.

Mr. Minot thought the word could be used in this negative as well as in a positive sense.

Dr. Bowditch spoke of the explanations given of muscular contraction by Weber, Fick, and others, according to which the elastic properties of a muscle in the relaxed and in the contracted state are quite different.

Drs. James, Bowditch, and **Garland** discussed the question as to whether the elasticity of the stretched connective tissue might help to lengthen a muscle shortened by contraction.

The form of muscle best adapted for quick and for heavy work respectively was discussed by **Drs. Curtis, James,** and **Bowditch.**

Dr. Curtis spoke of Dr. Bowditch's observations on the height and weight of school-children of different ages, and suggested that the frequency of occurrences of lateral curvatures of the spine in girls may be due to their relatively great weight, which seems to be largely the result of a development of fat.

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THE ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The session this season, which was held at Albany on the 4th, 5th, and 6th of February, was one of the best attended and most attractive that have been held for some years past, the papers, as a rule, being of greater scientific and professional interest than those usually presented at the meetings of the state society. The following are the principal officers elected for the ensuing year: president, Henry D. Didama, of Syracuse; vice-president, Nathaniel C. Husted, of New York; secretary, William Manlius Smith, of Manlius; treasurer, Charles H. Porter, of Albany.

The President's Address. — One of the principal features of the meeting was the able address of the president, Prof. D. B. St. John Roosa, which was delivered on the second evening in the assembly chamber of the new capitol, just opened, the ordinary sessions of the society being held in the old assembly chamber. His subject was The Relations of the Medical Profession to the State. He regarded the system in our law that allows able and zealous lawyers to coach and pay their own experts, until they have made honest partisans of them, as vicious, and expressed the opinion that the State should summon and should pay experts, who should act as associate judges, to aid the real judge in getting the truth before the jury. The plaintiff and defendant should undoubtedly have the right of putting their case before the medical experts, and exercise a choice in selecting them, but the medical man should receive his honorarium from the State, and should never be put in the position, as an expert, of being a witness for one side.

With regard to the matter of suits for malpractice he said: "To accuse lightly a man of being a liar or a thief is still considered a disgrace in any society in our land, but a doctor is imputed with malpractice in as free and easy a manner as the most trifling peccadillo is charged upon a servant. But we, as a profession, should first clear ourselves from any complicity in this kind of detraction before we turn upon those who lightly bandy charges against medical men. If each of us would ever guard his brother's honor as his own, and promptly avow a disbelief in the charge of malpractice which is so frequently brought to him by a patient who is about to change his physician, the flippant tone often observed in society in regard to the services of medical men would be changed to one of respect. There is need for a remedy for some of the worst features of these suits for malpractice. One of the States of our country, which is always in the van in any progressive political or social movement, has already passed a law which does away with the system of coroners' juries, as it now obtains in New York. By this new law of Massachusetts the office of coroner is abolished. In his stead is a medical examiner, and not until his investigation as to the causes of death is ended is there any calling upon the civil power, which then appears, if necessary, in the form of the district attorney and a justice. In our State the coroner may not be even a physician, and he may be a very ignorant man, while the coroner's jury is usually obtained in the easiest way possible. When we remember that serious medical questions are very often involved in the decisions of such a coroner and such a jury, — questions affecting the reputation and freedom, perhaps even the life, of a physician, — we do not wonder that one State has at last done away with the bad system to which New York still clings."

The part of the address devoted to the subject of medical education was admirable, and in the course of his remarks upon it Dr. Roosa said: "In the State of New York, at an early date, there was an attempt at a medical college, which should be a department of King's College, now Columbia. In this the European idea of responsibility of the faculty to a senatus academicus was a feature; but this state of things did not continue, and to-day not one of the leading medical colleges of the State is anything more than a first-class educational establishment, owned and practically controlled in all its details of financial management and appointment of professors by a body usually of seven men. They are at the same time proprietors and teachers. . . . It is true that in some of these colleges there is a titular connection with so-called universities, but he who makes the acquaintance of the managing boards of these institutions soon finds that they have an actual contempt for the idea that it is any part of the duty of a board of councilors or regents to look after the characters or acquirements of the men whose diplomas they are signing. It is greatly to the credit of the medical colleges of this State, however, that they have maintained medical teaching at a high standard, in spite of such a system and such an indifference and hostility as have been delineated. . . . Whatever may be proper for England or Germany, the United States are not yet ready for an alliance of medicine with the state. Neither do I believe that this society or any other society can successfully undertake the supervision of the medical colleges. . . . But observe what has been done by the president of Harvard University. With great ability and far-sightedness he has brought its medical school into close and responsible relations to his board of trustees, as a part of his scheme of raising a college to the dignity of a university. He has taken it out from its independent position, and made it, like the academic, law, scientific, dental, and theological departments, a part of a whole. That once done, the professors being independent of the favor of students, the existence of the school no longer dependent upon numbers, all needed reform became possible. Harvard has led where we must sooner or later follow.

"The University of Pennsylvania has also taken a step, although not a very long one, in the same direction, and the medical college at Syracuse adopts the Harvard system. The medical department of Union University also requires a preliminary examination.

"Anatomical, chemical, and physiological chairs, laboratories in colleges, and cliniques in hospitals, should be properly, although not extravagantly, endowed; so that medical schools may be maintained even without excessively large classes. . . . Our colleges must be made better, then, by being considered as one of the objects of philanthropic aid, as well as art-galleries, observatories, and schools of science and of theology."

Dr. Roosa claimed that physicians should have a much larger share in the management of all institutions for the care of the sick than is now the case. "The history of an average business career," he said, "is not so flattering that the class which represent it can afford to claim an exclusive knowledge of how to manage hospitals and asylums. The record of the management of the army hospitals during the civil war, by physicians and surgeons of the army of the country, is a complete answer to those who would put away medical men from the care of their own."

Under the fifth head he said that although we may not ask the state to endow medical schools, we may certainly expect that it will protect its citizens from well-defined quackery. "It is the bounden duty of a government that cares for the welfare of its inhabitants," he continued, "to see to it that no one is allowed to prescribe for diseases who has not furnished evidence of a satisfactory knowledge of anatomy, physiology, and chemistry. It should interfere to prevent the sale of so-called patent medicines and of adulterated medicines and food. What is wanted is a board of examiners, made up of the best men from the colleges and the profession, who shall determine, not the orthodoxy of a candidate as to the doses of drugs or the uses of cold water and vegetable medicines, but as to whether he has been well grounded in the structure and functions of the human body, the remedies for poisons, the rules for action in emergencies, and the principles of diagnosis, — a knowledge of which will at least protect his patients from scandalous malpractice."

When the public exercises at the capitol were concluded, the annual banquet of the society was held at the Delavan House.

Jaborandi. — One of the papers which attracted most attention was that by Dr. Fordyc Barker on The Use of Jaborandi and Pilocarpine in the Treatment of Albuminuria and Convulsions. He first described the effects of these agents on the system, effects which are known to be nearly constant and uniform, which are produced by no other medicine, and which naturally suggested the theory that the drug would prove useful in diminishing the œdema and eliminating urea in albuminuria. It may be relied upon to excite excessive salivation and profuse diaphoresis in a very short time after its administration. Hence it has been assumed that by this transudation urea in large quantities would be eliminated in the saliva and sweat. The author did not consider this to be established as a fact, by either experiment or clinical observation. When an agent is sure to produce the specific effect anticipated, one is tempted to rest satisfied with this action, without carefully noting whether any real benefit occurs to the patient from its use. In addition to the excessive salivation and diaphoresis, there is often a hypersecretion of nasal and bronchial mucus. The pulse is always quickened, sometimes forty or fifty beats in a minute, and at the same time its force is weakened. The face is at first flushed, but when the sweating commences it becomes pallid, showing that the sweating is not due to the excess of blood sent to the skin. It seems to paralyze, to a certain extent, the vasomotor part of the nervous system. It often produces headache, drowsiness, and haziness of the vision. After the sweating period, languor and debility persist for some hours. It does not increase the renal secretion.

Several cases have been published in which, after the action of jaborandi, patients suffering from albuminuria have been apparently benefited; but Dr. Barker did not regard the evidence of this to be conclusive. He then gave an abstract of the history of seven cases which he had seen in consultation.

CASE I. In the first of these the patient was in the seventh month of pregnancy, and had extreme and universal œdema, but no other symptoms, except debility. The urine was normal in quantity, and contained no albumen. Dr. Barker suggested a trial of jaborandi, which at first caused a decided decrease in the amount of fluid; but, even while the patient was taking the medicine, the œdema returned. The urine then became diminished in quantity, and was found to be albuminous, while the patient suffered from headache and extreme languor. The action of the medicine had prevented her from sleeping. She was then treated by elaterium, infusion of digitalis, acetate of potassa, and an exclusive milk diet. The œdema and albumen entirely disappeared some days before her labor, which was normal in every respect.

CASE II. In the second case a primipara, seven and a half months pregnant, and apparently perfectly well, was, without premonition, seized with convulsions. She was treated by calomel, stimulating enemata, cold applications to the head, and chloroform inhalations, while labor was induced and delivery completed by turning. After the delivery she remained in a stupor for about two hours, and then became conscious. Five hours after she had another convulsion, while asleep, and then three more in rapid succession. Another physician was called in consultation, who found the urine to be very scanty and highly albuminous. He advised that one quarter of a grain of pilocarpine should be administered hypodermically, and this produced most actively its specific effects. She had no more convulsions, but when Dr. Barker saw her the breathing was very labored, with loud bronchial, tracheal, and nasal râles, and the pulse was very rapid and feeble. She died an hour afterwards.

CASE III. In the third case a primipara, in the seventh month, suffered from headache and impaired vision, and her urine was found to be albuminous. After subjecting her to a course of mild laxatives and diuretics (the patient steadily growing worse, although not compelled to take to her bed), her physician decided to make trial of jaborandi. So violent was its action that two doses of it caused excessive and constant perspiration and salivation, and she became extremely weak. Dr. Barker then saw her, and found her cyanotic, and breathing with the greatest difficulty. He then discovered that the heart was displaced, and that the left pleural cavity was nearly filled with fluid. Only the upper part of the right lung was resonant on percussion.

CASE IV. In the fourth case the patient was awakened from a sound sleep, several hours after a perfectly normal and easy labor, and at once had a severe convulsion. A hypodermic injection of one third of a grain of morphia quieted her system, and she had no more convulsions. But eight hours after this her physician passed the catheter, and obtained but six ounces of urine, which was highly albuminous. He administered hypodermically one quarter of a grain of pilocarpine, which was repeated in six hours. Her symptoms then became so alarming that Dr. Barker was sent for, and on his arrival he found that her clothing was saturated with perspiration, while the nurse was incessantly occupied in wiping from the mouth and nostrils the fluids which were constantly oozing away. She was then dying from unmistakable signs of pulmonary thrombosis.

CASE V. In the fifth case the patient had no symptoms of albuminuria until after labor, which was tedious and had to be terminated by means of the forceps. She suffered for many hours from atrocious after-pains, and then had several convulsions. After this she was apparently doing well for two days, except that the catheter was required to empty the bladder. The urine, however, was sufficiently abundant, and it contained no albumen until the third day after parturition. As she had been taking diuretics and the bowels had been freely moved, her physician now gave a drachm of the fluid extract of jaborandi. The effects were so active and caused her to look so badly that the doctor had to be summoned hastily. Dr. Barker saw her the same evening, when she was dying, apparently from cerebral œdema and cardiac asthenia.

CASE VI. In the sixth case a primipara, in the seventh month, was taken while at church with headache, nausea, and haziness of vision. Up to this time she had been well. Her bowels were acted upon by blue-mass and a seidlitz powder, but her symptoms were not improved. She was then treated by sweet spirits of nitre and the bitartrate of potassa, but as she still did not improve, a physician was called in consultation. He found the urine very albuminous, and advised a trial of jaborandi. Two hours after taking it, although the salivation and sweating produced by it were very copious, she had a violent convulsion, during which her tongue was badly bitten. Premature labor was induced, and by the time the delivery was accomplished (the patient being anæsthetized by sulphuric ether) she had had five more convulsions. After labor she became conscious, and the physician asked permission to pass the catheter. This she resisted with great nervous excitement, and the consequence was that a seventh convulsion ensued. She was moribund when Dr. Barker saw her, and died nine hours after delivery.

CASE VII. The seventh case was a melancholy one of great imprudence in a young wife, which brought on acute suppression of urine and convulsions. Jaborandi was given in a rectal enema, and in the opinion of her medical attendant, one of the most prominent obstetricians in New York, decidedly relieved the acute uræmia. Premature labor was then induced, and she appeared to be doing well for a few days, with the exception that the nausea was so persistent that she was supported only by rectal alimentation, when another imprudence apparently brought on peritonitis, and she died in twenty-four hours after.

In conclusion, Dr. Barker asked whether it might not be probable that the development of uræmic symptoms and albuminous urine in the first case, the great depression and exhaustion which followed its use in the second, the serous effusion in the pleural cavity in the third, the pulmonary thrombosis in the fourth, the cerebral œdema and cardiac asthenia in the fifth, and the convulsions in the sixth were not in reality chiefly due to the effect of the jaborandi on the nervous system and its modification of the constituents of the blood. He firmly expressed the belief that the utility of jaborandi in the treatment of puerperal albuminuria was more than doubtful, and that after convulsions its depressing influence, as well as its peculiar action which prevents sleep and the needed repose of the nervous system, renders it in these cases an unsafe and even really dangerous remedy.

(*To be concluded.*)

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THE BUREAU OF PUBLIC HEALTH.

THE select committee of the two branches of Congress appointed to investigate and report the best means of preventing the introduction and spread of epidemic diseases have done so. They have reported a bill entitled, "A bill to prevent the introduction of contagious or infectious diseases into the United States, and to establish a bureau of public health." This was accompanied by a joint resolution continuing the committees of the two houses, and authorizing them to create a commission of eminent scientists to investigate yellow fever in the port of Havana, in regard to which we have more to say elsewhere.

The bill reported by the committee is that brought before the senate by Mr. Matthews, of Ohio, with some slight modifications, and embodies "the conclusions of the board of experts authorized by Congress to investigate the yellow fever epidemic of 1878."

This bill establishes a bureau of health, with a chief executive officer, to be appointed by the president, with the consent of the senate. He is to be called the director-general of health, and is also to be charged with the supervision of all matters connected with the marine hospital service; with the execution of all measures to prevent the introduction of contagious or infectious diseases into the country; with the enforcement of all quarantine regulations, of all laws for the improvement of the sanitary condition of the District of Columbia; with the duty of obtaining information of the sanitary condition of foreign ports and places, and of ports and places within this country, and of issuing weekly reports of the same, etc., etc.

In connection with this bureau of health the bill proposes to establish a board of health, to consist of seven members, to be appointed by the president, with the consent of the senate, whose compensation shall be ten dollars a day and reasonable expenses whilst sitting; the surgeons-general of army and navy to be *ex officio* additional members of the board, but without additional pay; the director-general to be *ex officio* a member and president of this board of health.

This board of health is to meet from time to time upon notice from the director-general, or upon its own adjournments, to frame all rules and regulations authorized or required by the bill, and to make such special examinations at any place within the United States as may be necessary to aid in the execution of the act.

We have given this brief outline of a bill which all medical men should read for themselves in full.

In general we cordially indorse the moderate tone and the conclusions of the report of the board of experts upon which this bill is based, and the bill itself is probably as good a one as we are likely to get before Congress, and very much better than a previous one which we took occasion to notice. If once in operation, improvements would undoubtedly suggest themselves from time to time. The appointment of the members of the board of health by the president has its advantages and disadvantages; it is perhaps well to put the responsibility upon one man, even though not personally qualified to select. Congress certainly should have nothing to do with such appointments. As we have before said, the pith of this or any kindred bill necessarily lies in its quarantine regulations, and in the manner of their enforcement. The regulations may be wise and the powers given under them necessary, as those in the present bill seem to us to be, and yet cause more harm than good to the country at large if administered by an over-zealous or negligent functionary.

The proposal to attach a medical officer to the consulate in foreign ports where epidemic diseases are prevalent is a very admirable one.

The field to be covered is in many respects a new one, in which very much is still to be learned, and the powers to be granted are immense, but some legislation in regard to epidemic diseases is imperative, and for our own part we have more fear that all such will be defeated by the supposed interests of commerce than we have of the passage of a bill which in its inception may fall short of perfection.

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REPORT OF THE COMMITTEE ON YELLOW FEVER.

In accordance with the recommendation of the board of experts on yellow fever, the congressional committee on epidemic diseases has reported a joint resolution authorizing the appointment of a commission to visit Havana and to institute a scientific investigation into the causes of the prevalence of the disease at that port.

The commission is to consist of "experts, one of whom is to be learned in medical science, one a microscopist, and one a sanitary engineer, and all eminent for their scientific attainments."

The president is requested to invite the coöperation of the Spanish government in the examinations and experiments of the commission in furtherance of international commerce and the sanitary interest of mankind. The commission is also to visit such other places as the congressional committee shall direct, and to prepare a report for the next Congress.

The proposal thus placed before Congress is certainly one of the most important and practical steps that has yet been taken towards securing a correct knowledge of the causes that influence the origin and spread of yellow fever. The disease can be studied to much greater advantage in Havana, or other places where it prevails endemically, than is possible during the state of alarm and uncertainty that necessarily influence the correctness of diagnosis and observation during its epidemic prevalence.

In the form in which it has been reported, however, the resolution is disappointing in several particulars: first, as to the number of medical experts, which should not be less than three, as the possible death or sickness of either of those provided for by the resolution would seriously cripple the work; second, the rate of compensation is fixed at ten dollars per day and necessary expenses. Surely not much reflection will be required on the part of Congress to convince them that the same *per diem* rate that is frequently paid a temporary sergeant-at-arms of a committee is not proper remuneration for the high grade of scientific work pursued under circumstances of personal danger that will be required of all the experts, and that scientists capable of improving to the fullest extent the broad field of observation open to them cannot be secured for the inadequate compensation provided. Notwithstanding this defect, however, the spirit of scientific liberality which places labor that contributes to the amelioration of suffering and the increase of knowledge above a money valuation would secure the services of men well fitted for the duties required.

The last and most serious defect in the resolution is the transfer of the power of appointment of the experts from the president, as first provided for in the Harris bill, to the congressional committee; this is an error that we strongly desire to see corrected, and it needs but little argument to prove that the appointments, if made by the president, would probably be of a much higher grade than if made by the committee, as the former will have much better opportunities of informing himself of the qualifications of the different persons suggested for the duties than the committee can possibly possess.

THE MEDICAL PRACTICE ACT IN ILLINOIS.

THE Illinois State Board of Health appears to be in danger of annihilation at the hands of the legislature. Two bills have been introduced: one, in the house, to emasculate the medical practice act, by repealing the section empowering the board to enforce the provisions of the law; and one, in the senate, to abolish the board of health. As the warfare against the board is made chiefly by those who, manifestly to legislators even, ought not to be allowed to practice at all, the bills are both likely to fail of passing. However, they have in the legislature a persistent if not a numerous following. Misappropriation of money and injustice in the granting of certificates to practice are charged against the board. Of course, if such charges are well founded, it is no argument in favor of repealing the laws under which the board acts. That mistakes at least have been made in the granting of certificates is probably true, and only natural; but the examinations of candidates for license to practice — such as had never graduated from a reputable college — have done the board high credit. No medical college in America has ever plucked so large a proportion of its candidates for graduation, and few, if any, have imposed a more searching examination.

Much opposition to the medical practice act comes from many good men, because physicians of more than ten years' practice in the State were exempted from the provisions of the law. The indignation at seeing large numbers of old charlatans — sores on the body medical — going on in their discreditable work unmolested, while excellent and competent physicians, by the accident of their youth or brief residence, were obliged to submit to what has sometimes seemed impertinent inquiry and examination, has, unfortunately, been vented mostly upon the board which has had to execute the law, rather than on the law-makers. This is having its effect at the present time.

So busy has the board been with the examination and licensing of physicians that it has been unable to do much other work. It has put into operation rules for the registration of births and deaths with county clerks; has supplied physicians with blanks, and the clerks with blank books; and all physicians and midwives, whether licensed or not, have been obliged to register their names, etc., in the offices of these clerks.

The reporting of all births and deaths is not by any means accomplished; the provision of the law requiring it is found to be difficult of execution. Indeed, it is frankly disregarded and defied by some of our best and most peaceful physicians, on the ground that it is unconstitutional to require medical men to do these things without compensation. They say the constitution declares that no citizen shall be deprived of his property without compensation, and a physician's time is his property.

One practitioner says his obstetrical cases since the beginning of the year have been so numerous that should he report them all, with his poor and slow way of writing, it would take him a day or more to fill out the "stubs" and the certificates in the way prescribed. He reports none of them. Another invites prosecution by the board, that a test case may be made for a decision by the supreme court.

One good way suggested out of this difficulty — a difficulty that vitiates our vital statistics — is to compensate physicians with a small fee for each certificate of birth or death. Such a system of doing is in vogue in at least two States, and is said to result in a very complete and accurate report of births and deaths.

With all the defects in the two laws under which the board of health acts, and with all the short-comings and mistakes of this body, so far as the feeling of the profession throughout the State can be ascertained, it is overwhelmingly opposed to the abolition of the board, or the curtailment of its powers. If the profession could be heard to-day, its demand would be simply and only for a few amendments to the laws, that are demanded by the experience with their workings.

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MEDICAL NOTES.

— We quote what follows from a letter received from our London correspondent: "You may be interested in learning that a bill is shortly to be introduced to reëstablish the '*tours*' with absolute secrecy. This measure is a very strong one, and it will be most interesting to watch its development. Such a course is quite contrary to our English instincts, and would stand no chance of adoption here, but circumstances are very different on the two sides of the channel. Our difficulty is less with illegitimate children than with the mismanagement and neglect of the large families of children among the lower classes."

— The eighth annual report of the New York Ear Dispensary opens with the following sentence: "The New York Dispensary is believed now to be second in importance to only one similar institution in the world, namely, the Royal Ear Hospital of London, which was founded as a dispensary in 1816." The Massachusetts Eye and Ear Infirmary is entirely overlooked, but it has issued its fifty-third report, and in it are given during the past year 2561 ear cases, while the New York Dispensary treated less than six hundred. It may be said that the Massachusetts institution attends to the eye also, and so is not for the ear alone. But the New York Dispensary treats the throat and teeth as well as the ear.

— A Russian lady, Madame Berladsky, recently defended a thesis upon a histological subject before the Faculty of Medicine in Paris. At the close she was warmly congratulated by Professor Charcot, who expressed the opinion that women ought to be especially successful in the specialty of histology, which requires so much care and such delicate manipulation. Eleven ladies presented themselves for the winter matriculation examination of the London University under the new charter.

— According to the *Lancet*, Mr. Foster reports two cases of pronounced apoplectic coma, which were treated by the injection of twelve drops of a solution of ergotine, containing seven and a half grains to the drachm of vehicle. In both cases the coma disappeared soon, and recovery took place. The essential condition for the success of the treatment is that the injection be administered at the beginning of the attack, before there has been time for an extensive extravasation of blood. Mr. Foster recommends injecting the fluid between the muscles of the fore-arm, and not merely under the skin, where it is liable to excite suppuration.

— It appears that in the hospitals of Philadelphia there are at present nearly twelve hundred empty beds. This indicates the good health of the city and a full provision of such medical charity as the city needs.

— The details of the late endemic of diphtheria in the ducal family of Hesse-Darmstadt afford a remarkably strong proof of the contagious nature of diphtheritic poison. The *British Medical Journal* for January 11th contains a full report by Dr. Oertel, the attending physician.

— Professor Tardieu, of Paris, is dead. — The election of Professor Owen and Mr. Darwin to the Berlin Academy of Sciences has been approved by Emperor William. — There are six hundred and twenty-three medical students in Berlin during the present semester, a larger number than has ever before assembled in that city at one time. There are only three hundred and twenty-three medical students in Leipzig, one hundred and one in Erlangen, seventy-six in Kiel. — Bazin, the distinguished dermatologist of Paris, recently died at the age of seventy-one.

NEW YORK.

— The vital statistics for the month of January, 1879, do not present quite as favorable a showing as those of the same month a year ago. While this year there were 2120 births and 2695 deaths, last year there were 2462 births and 2254 deaths, which is a decrease of 342 in the number of the one, and an increase of 441 in the number of the other. There was, however, an increase of 72 in the number of marriages, and from this fact some hope for the future population of the city may perhaps be derived.

— For some time past a volunteer life-saving corps, consisting of three young men, with "Nan, the newsboy," as their leader, have been doing an excellent service in rescuing drowning persons along the East River docks, and lately Captain Paul Boyton, of British Channel fame, has interested himself in getting the youths properly equipped for their gallant work. Through his exertions the "New York Volunteer Life-Saving Society" has been organized, and more than eight hundred dollars have been contributed for the carrying out of its humane objects. Floats fitted up with all needful appliances have been provided at different points along the river front, and the Galvano-Faradic Manufacturing Company have offered to furnish the various stations with suitable electrical apparatus, as well as to instruct the members of the corps in its use. The whole number of individuals rescued from the water by "Nan" and his companions is no less than twenty-eight.

— Dr. George Gilfillan, one of the oldest physicians of Brooklyn, died suddenly of disease of the heart on February 5th. From an Irish exile, who landed here in 1828, poor, and without friends, he became rich and widely known and respected in the community. He began his practice in Brooklyn in the cholera season of 1832, and lived to see what was then a mere village attain its present vast proportions. Up to the time of his death, which occurred in his eighty-third year, he continued in the active practice of his profession, and, as one of the obituary notices of him states, his generosity, geniality, happy temperament, and conversational charms will long prove delightful memories to hosts of his friends on both sides of the ferry.

— At the last meeting of the Academy of Medicine, Dr. John G. Adams read an eloquent eulogy of the late Dr. Jacob Bigelow.

PHILADELPHIA.

— The winter's work is nearly over at the colleges, the examinations beginning on the first of March. The classes do not show as great a falling-off from last year as was expected early in the session. The number of matriculants at the Jefferson is five hundred and seventy-two against five hundred and ninety-eight of last year. At the University the second-year class has one hundred and twenty-six out of the one hundred and thirty-two who commenced their studies one year ago, while the number of medical freshmen this term is one hundred and twenty-one. The friends of the new plan at the University say that it may now be considered established. The cause of true medical reform has nowhere more sincere friends and earnest advocates than can be found in Philadelphia, and at the next meeting of the confederation of American Medical Colleges in Atlanta, Friday, May 2, 1879, a strong effort will be made by Philadelphia delegates to induce the representatives of all the regular medical colleges to unite in a general advance all along the line.

— There are in this city several institutions which have been doing a good business by granting medical and other degrees *in absentia*. This diploma-selling has become notorious, and has had the effect of casting discredit abroad upon Philadelphia colleges in general, to the great injury particularly of the University of Pennsylvania, whose name has been closely copied in the titles, "The University of Philadelphia," and "The American University." Legislative committees have repeatedly investigated the charges, and indeed a resolution was finally passed revoking their charters, but the supreme court of the State decided that the legislature had no right to rescind these charters, as this can only be done through the courts. Within the last week *quo warranto* proceedings have been instituted, therefore, in our courts, and there is now a determination to accomplish something decisive that shall at last uproot this evil. The present mayor of Philadelphia, Mr. Stokely, has done much to abate this nuisance by publishing circulars describing the character of these institutions, which are sent out in response to inquiries that are being constantly received from England and the Continent particularly.

— Dr. J. J. Reese has been elected attending physician to Girard College, and Dr. I. Minis Hays to the corresponding office in the Institution for the Deaf and Dumb, both positions having been vacated by the death of Professor Biddle.

— A form of pneumonia characterized by typhoid symptoms, with little or no cough or expectoration, and unusually fatal, is now prevailing to some extent in this city. The deaths from inflammation of the lungs for the week ending February 8th were forty-six, or nearly double the entire number from scarlet fever (nine), typhoid fever (two), diphtheria (eight), croup (seven) altogether, and almost equaling the number who died from consumption (fifty-six). This is thought to be without precedent in the annals of this city. The total motality was three hundred and fifty-three, those from pneumonia being thirteen per cent. of the entire number. Twenty-five persons died from old age.

CHICAGO.

— Dr. John Bartlett has invented a new obstetric forceps, which was recently exhibited to the West Chicago Medical Society. It is specially designed for grasping the head when high in the pelvis, and for making traction in the direction of the axis of the superior strait, without disturbing the perinæum; in this particular it serves a similar purpose to the forceps of Professor Farnier and Dr. Hobbs. In Bartlett's instrument the shank is long and straight, and the two parts overlap each other when closed, like a pair of shears; the shank projects from the axis of the blades at an angle of perhaps thirty-five or forty degrees; the handles are large and strong, and project from the shank at the same angle, being thus exactly parallel to the axis and line of traction of the blades. Thus the operator may always know the direction of his traction by observing the axis of the handles. Dr. Bartlett believes they accomplish the same direct traction as those of Farnier, and in a much simpler manner. The overlapping of the parts of the shank make this part of the instrument occupy a very small space.

LETTER FROM WASHINGTON.

Mr. Editor, — In my last letter there occurred some comments upon a recent investigation held by the advisory board of Columbia Hospital upon the surgeon in charge. Since its publication, the annual report of that hospital has appeared, and further reference to the subject seems to be proper. It would seem from this report that the investigation was due to the action of the board of directors, the advisory board acting simply under their orders; that no testimony was given except under oath, was reported verbatim by a stenographer, and is now on file, "open to inspection by all wishing to know the facts." This assertion should satisfy all interested in the matter, and is a much better mode of dealing with the subject than, as was suggested in my last, giving additional publicity to what should never have received so much consideration. Publicity was thought by the advisory board to be necessary, and is stated to have been complete; how much wisdom there was in this is very questionable, as, a charge once made public, the faintest suspicion of its possible truth is too apt to receive such confirmation in prejudiced minds which no amount of positive testimony can afterwards disprove, — a fact which our politicians know too well how to take advantage of. It is hoped there will be no more public investigations of medical men, at least until the importance and consequence of the same have been well and duly considered. The advisory board has sustained a serious loss by the resignation of Dr. N. S. Lincoln, but has obtained a valuable addition in the appointment of Dr. D. R. Hagner. One of the most marked evidences, shown by the report, of the appreciation in which the hospital is held is the more than double increase of pay patients during the year over that of any previous year. Another significant fact is the recent election by the District Medical Society of two of the present incumbents to honorary positions, one as president, another as vice-president, the surgeon in chief and one of the board of directors being also placed upon the board of censors.

The report of the health officer, Dr. Smith Townshend, for 1878, just issued, gives a valuable series of tables on vital statistics as applied to the district. The question of the Potomac flats, comprising hundreds of acres of swamp, covered at times with fermenting sewage, and almost encircling the city by the water front, is made of the first importance for sanitary consideration. Since Congress controls the power for remedial aid, and since the nation has been recently so overwhelmed with sorrow at the ravages of yellow fever, it is hoped that the nation's representatives will legislate to Washington's advantage. One interesting feature in the tables of vital statistics is the comparison of the rates of mortality, susceptibility to disease, etc., between the whites and blacks (or colored) of the population. The colored comprise a little over one fourth of the entire number, and, as a rule, live in the more insalubrious sections. The whites furnish a little more than fifty-two per cent., the blacks a little less than forty-eight per cent., of the death-rates. Phthisis stands first among the causes of death, and with the blacks the female death-rate is a little less than one per cent. over the white, the male being three per cent. over the white. In pneumonia the colored race supply nearly two thirds of all the cases. Diphtheria ranks as fifth and scarlet fever as sixth among the prevalent diseases. Trismus nascentium is still recognized as of common occurrence, but does not obtain the prominence it had in previous reports.

The Clinico-Pathological Society, which was organized in 1865, comprised at various times some forty odd members, held its meetings regularly until 1874, and published its transactions in the *American Journal of Medical Sciences*, held its final meeting in December last; deposited its pathological specimens in the Army Medical Museum, its books and papers in the library of the surgeon-general's office; and with a historical review by one of the original members, and the converting of the funds of its treasury into a supper, adjourned *sine die*, the termination of as effective and working a medical society as ever was organized in the district.

In January there was organized in this city the Cosmos Club, for social intercourse, by some sixty-four members, four of whom are non-resident. It is intended to bring together on the same basis with that of any other social club persons interested in science or literature, and bids fair from its outset to serve a valuable purpose. The club is duly incorporated for "the advancement of its members in science, literature, and art, their mutual improvement by social intercourse, the acquisition and maintenance of a library, and the collection and care of materials and appliances relating to the above objects." President, Prof. S. F. Baird, Smithsonian Institution; vice-president, Dr. Jas. C. Welling, president Columbian University; secretary, Prof. E. S. Holden, U. S. Naval Observatory; treasurer, Dr. J. S. Billings, surgeon-general's office, U. S. A. Among the members are the names of men prominent in every branch of science at the national capital. The non-resident members comprise the president and part of the professional staff of the Johns Hopkins University. Several medical men have been honored by being included in the list of members, as congenial to and in sympathy with the work of scientists. Everything that may conduce to draw men together socially, such as the periodicals, cards, refreshments, etc., and handsome and comfortably furnished rooms, has been very judiciously provided for by the house committee, and already men begin to look upon the club as a part of their daily life. We all know how scientists, as they become more and more engrossed in their work, are apt to draw out of general society, from a feeling that they are out of place; they miss the sympathy with their especial work which they can find only in such an organization as this, where it is understood, and where it must be a pleasure to be able to detail to an interested listener work done and in anticipation, and they are insensibly drawn out of themselves to take interest in the work of others, on an equally scientific basis. And so with doctors: it is preëminently the club of clubs for them; not, to be sure, for finding patients, but for enlarging their views, and affording them a suitable relaxation. Apart from all this, the ability to introduce a visiting friend to a social circle of scientists, well known by reputation throughout the country, and to honor such from other sections of the country, and to know them away from the lecture room, etc., is certainly a great pleasure. W. L.

February, 1879.

SHORT COMMUNICATIONS.

A NEW METHOD OF TREATING DISLOCATION OF THE FEMUR, WITH FRACTURED ACETABULUM.

BY W. L. FAXON, M. D., QUINCY.

MRS. FAXON, aged thirty-five, wife of Dr. W. L. Faxon, of Quincy, Mass., was thrown from a buggy while driving, October 1, 1877. When taken up there were symptoms of dislocation or fracture of the right femur. Examination proved the existence of a fracture of the lip of the right acetabulum and dislocation of the head of the femur downwards and backwards, with about four inches shortening. The fracture of the lip of the acetabulum was so deep that there was no feeling of the head of the femur being raised in its passage over the broken edge of the socket. Dr. John H. Gilbert, of Quincy, assisted her husband in the first care of the patient. Dr. Samuel Cabot, of Boston, saw the case in consultation on the Friday following the receipt of the injury, confirmed the diagnosis, and recommended the use of the long Desault splint. It was tried, but the patient's condition — she being five months advanced in pregnancy, and troubled with constant vomiting from the time she was injured — led to its being abandoned. Her husband then prepared a bed of which the following is a description: —

An iron cot-bed, six feet two inches by two feet three inches, was floored over with inch board to make a bottom that would not sag; on this was put a hair mattress of three parts, the upper part being thirty-seven inches long, the middle section twelve inches, and the lower section twenty-five inches. Under the twelve-inch section a corresponding piece of the flooring was adjusted for removal. Surrounding the bed, its lower edge just at the top of the mattress, was a frame of board, six inches wide, with legs at the corners extending to the floor, and securely lashed to the legs of the cot. Across the bed at the bottom of the upper section of mattress was a piece of board the same width at the ends as the side frame, but hollowed in the centre to one inch in width. About four inches on either end of this cross-piece were left of the same width as the sides, for reasons that will appear. On the upper piece of mattress thus cut off from the rest three bags of sand were put, the lower one extending from side to side, and its lower edge just covering the hollowed edge of the cross-piece of frame. This bag was long enough to reach the small of the back, and was loosely filled with about three inches of sand. The space above this broad bag was occupied by two bags, each reaching to the middle of the bed. The sand was thoroughly baked before being bagged. The patient was removed to this bed about ten days after the date of injury, by her husband and Dr. J. A. Gordon. The sand in the loosely filled bags was adjusted by pushing and drawing to fit accurately all the curves of the back. The cross-piece, with the sand-bag just riding up on it sufficiently to take the shape of the lower part of the body, prevented the patient from slipping down in bed, and gave as perfect counter-extension as was ever seen. On the twelve-inch section below the cross-piece was a bag eighteen inches long and some six inches in diameter. This bag was quite tightly filled, and only by hard pressure with the ends of the fingers was made to accommodate perfectly the upper half of the thighs. This bag was made to lie close to the cross-piece. Below this the twelve-inch section was covered with a pillow, as was the lower section of the mattress. To keep the right leg in position a bag of sand was placed on each side of it. To support the foot several small bags, from one pound to four pounds' weight, *tightly filled*, were used as occasion required. The body was supported and confined on the sides by four bags, one on the side of each hip, with the lower end pressed against the uncut portion of the cross-piece. This end of the bag was made by setting in a piece of cloth the whole size of the end, so as to allow of an accurate adjustment at the hip-joint. The upper end of each bag extended nearly to the axilla. Smaller bags were placed above these to support the arms and keep the body from feeling its own weight.

The comfort and quiet brought by the removal of the splint and bandages were all that could have been desired. The patient's expression was: "There, now I feel perfectly comfortable." Almost as a matter of course the vomiting that had been present from the beginning soon ceased, and the stomach retained what was swallowed. The case progressed favorably. The bed linen was easily removed. The operations of nature, by the removal of the twelve-inch section of mattress with its sand-bag, were performed with comfort and cleanliness, and with not the slightest movement of the patient. No bandage or extension was necessary; passive motion was made as soon as it was deemed expedient, and on the fiftieth day from the receipt of the injury the patient was removed to a chair.

On January 21, 1878, she had a very easy accouchement, and the child, a boy weighing nine pounds, was apparently none the worse for his mother's injury.

At the present writing, December 5, 1878, Mrs. Faxon is able to walk a couple of miles with a cane, and barring a little pain, evidently not in the hip-joint, goes about her occupations as usual, and even has joined in a dance. Her weight, one hundred and sixty-two pounds, is a little against her very rapid recovery of complete use of the limb, but of the *perfect* recovery there is no doubt.

The simplicity of this new form of application of an old agent may be of benefit to other sufferers, and is the only reason for reporting the case.

DR. JONAH FRANKLIN DYER.

Death has again invaded the ranks of the medical profession of Cape Ann. At half past three o'clock Sunday morning, the 9th inst., died Jonah Franklin Dyer, a highly worthy and much respected physician and citizen of Gloucester.

Dr. Dyer was born in Eastport, Maine, April 15, 1826, and was consequently not quite fifty-three years old at the time of his death. After receiving his preliminary education, he commenced the study of medicine under the tuition of Dr. Trafton, of South Berwick, Maine, and finally graduated from the Medical School, Bowdoin College, Brunswick, Maine, in the year 1849. Soon after receiving his degree, he commenced the practice of medicine in Boston, where he remained two years. Thence he removed to Annisquam, a village in the northern part of Gloucester, in July, 1851, where he continued the practice of medicine successfully till the war of the rebellion broke out; and when the first call for surgeons for the Massachusetts volunteers was issued, he promptly offered his services, was commissioned by Governor Andrew in August, 1861, and appointed to the Nineteenth Regiment as surgeon. His activity and fidelity to trusts committed to him while in the army are matters worthy of record; suffice it to say they gained him the honorable position of division surgeon.

Returning from the war at its close, he settled in the Harbor Village, but, through the intercession of his former friends and patrons, was induced, June, 1871, to move back again to Annisquam, where he continued to practice so long as his failing energies permitted.

Dr. Dyer was a man of public spirit and of decided political preferences, and therefore became somewhat prominent in public life. He was a representative to the state legislature from Gloucester in 1869; was connected with the school board several years; was city physician at one time; was alderman from Ward 6 from the commencement of the city government till his inauguration as mayor of the city in 1878; and also held the office of medical examiner till obliged to resign on account of failing health.

Intermittent fever had so shattered his constitution that after his return from the army exposure frequently incapacitated him for professional work. A chronic and troublesome cough was engendered, and finally, early in the month of June, 1878, an attack of pneumonia ushered in the more active symptoms of phthisis which terminated in his death.

As a professional brother Dr. Dyer was courteous, considerate, and free in the interchange of opinions. As a physician he was well abreast of the times, sympathetic, yet deliberate, decided, and judicious in measures and methods, and therefore a successful practitioner. A truly valuable professional and Christian example has been left by him, and we have occasion sincerely to mourn his loss from our midst. J. G.

GLOUCESTER, *February* 11, 1879.

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REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 8, 1879.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Annual Death-Rate per 1000 during the Week.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Pneumonia.	Scarlet Fever.	Diphtheria and Croup.	Diarrhœal Diseases.
New York	1,085,000	602	28.27	20.25	10.68	11.29	4.49	0.83
Philadelphia	—	353	—	—	—	2.56	2.27	—
Brooklyn	564,000	226	20.89	16.37	13.27	12.65	10.17	0.89
St. Louis	—	113	—	15.04	14.16	0.89	4.42	2.65
Chicago	—	148	—	15.54	12.16	1.35	9.46	—
Baltimore	365,000	134	19.14	19.40	12.69	5.22	7.46	0.75
Boston	356,500	144	21.07	15.28	9.03	3.47	9.03	—
Cincinnati	—	89	—	28.09	8.99	16.85	3.37	1.12
District of Columbia	165,000	84	26.67	9.52	9.52	3.57	1.19	2.38
Pittsburgh	—	54	—	14.81	9.26	3.70	5.56	—
Milwaukee	—	34	—	11.76	17.65	—	5.88	—
Providence	101,000	30	15.49	20.00	13.33	—	16.67	—
New Haven	—	22	—	4.55	31.82	—	4.55	—
Charleston	—	39	—	10.26	7.69	—	5.13	—
Lowell	53,300	14	13.69	14.29	—	—	14.29	—
Worcester	52,500	19	18.87	5.26	15.79	5.26	—	—
Cambridge	51,400	16	16.22	12.50	12.50	—	—	—
Fall River	48,500	—	—	—	—	—	—	—
Lawrence	38,200	14	19.11	28.57	14.29	—	21.43	—
Lynn	34,000	8	12.27	—	12.50	—	—	—
Springfield	31,500	13	21.52	30.77	23.08	23.08	7.69	—
New Bedford	27,000	—	—	—	—	—	—	—
Salem	26,400	6	11.85	16.67	16.67	—	—	—
Somerville	23,350	9	20.10	22.22	—	—	11.11	—
Chelsea	20,800	7	17.55	28.57	—	—	14.29	—
Taunton	20,200	6	15.49	—	16.67	—	—	—
Holyoke	18,200	7	20.06	—	14.29	—	—	—
Gloucester	17,100	8	24.39	—	12.50	—	—	—
Newton	17,100	4	12.20	25.00	25.00	25.00	—	—
Haverhill	15,300	6	14.45	16.67	—	—	16.67	—
Newburyport	13,500	8	30.90	—	25.00	—	—	—
Fitchburg	12,500	6	25.03	33.33	—	—	16.67	—

Two thousand one hundred and twenty-three deaths were reported: 361 from consumption, 217 from pneumonia, 131 from scarlet fever, 82 from diphtheria, 78 from bronchitis, 40 from croup, 27 from whooping-cough, 26 from typhoid fever, 18 from erysipelas, 13 from diarrhœa and dysentery, nine from cerebro-spinal meningitis, one each from cholera infantum and measles, and none from small-pox. A marked decline in acute pulmonary and in the prevailing zymotic diseases; erysipelas shows an increase, and also pulmonary consumption. Philadelphia reported 63 deaths from acute pulmonary diseases, not included in the above.

From *bronchitis* 41 deaths were reported in New York, 10 in Brooklyn, nine in Chicago, eight in Baltimore, five in St. Louis, three in Pittsburgh, two in Cincinnati, District of Columbia, and New Haven, one in Milwaukee, Providence, and Charleston. From *whooping-cough,* 15 in New York, five in Cincinnati, two in Philadelphia, one in Brooklyn, St. Louis, Baltimore, and District of Columbia. From *typhoid fever,* six in Baltimore, four in New York, three in Chicago, two in Philadelphia, Brooklyn, Pittsburgh, and Charleston, one in St. Louis, District of Columbia, Providence, Lawrence, and Chelsea. From *erysipelas,* six in New York, four in St. Louis, three in Brooklyn and Boston, one in Baltimore and Louisville. From *cerebro-spinal meningitis,* two in Chicago, Milwaukee, and Cambridge, one in New York, Cincinnati, and Fitchburg. The one death from *measles* was in Pittsburgh. Baltimore reported two and Charleston three deaths from *trismus nascentium.* In Nashville, the weather was moist and cold, with much sickness; pneumonia was prevalent. In Washington the death-rate among the blacks was double that of the whites. The returns from seventeen of the nineteen cities in Massachusetts, with a population of 791,850, showed a decrease in the mortality from acute pulmonary diseases, an increase from the prevalent zymotics, — slight from diphtheria. Acute pulmonary diseases were very prevalent in Louisville, New Orleans, and San Francisco; diphtheria in Buffalo and Salt Lake City.

Sergeant Purssell's meteorological record for the week, in Boston, is as follows: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.			Rainfall. (Melted Snow.)	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Daily Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration in Hours.	Amount in Inches.
Feb. 2	29.439	22	30	8	62	53	68	61	NW	NW	NW	16	24	19	O	O	C	—	—
" 3	29.628	29	36	20	72	53	57	60	NW	NW	W	17	16	6	C	C	O	—	—
" 4	29.839	29	34	25	64	52	61	59	NW	NW	NW	15	20	11	F	C	C	—	—
" 5	29.796	27	37	20	71	61	88	73	W	W	E	4	4	2	F	O	S	—	—
" 6	29.853	30	36	25	87	61	78	75	NW	NW	NW	5	2	3	F	F	O	10.2	.22
" 7	30.096	26	36	18	85	43	64	64	NW	W	W	8	9	8	C	C	C	—	—
" 8	30.333	24	31	19	75	36	60	58	W	NW	O	12	15	0	C	C	C	—	—

	Barometer.	Thermometer.	Humidity, Saturation being 100.	Wind.	Rain.
Weekly Summary.	Mean 29.855	Mean 26.9	Mean 64.5	Total miles traveled, 1858.	Total amt. .22 in.
	Max. 30.371	Max. 36	Max. 94		
	Min. 29.345	Min. 8	Min. 36	Prevailing direction, N. W.	Duration, 10 hrs. 15 min.
	Range 1.026	Range 28	Range 58		

Barometer corrected for temperature, elevation, and instrumental error.

Explanation of weather symbols: O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., snow; L. S., light snow; T., threatening.

Station: Latitude 42° 21′; longitude 71° 4′; height of instrument above the sea, 77.5.

The death-rate for the week ending January 25th for the twenty large English towns, with a population of 7,269,976, was 26.3, or still decreasing: for London 26.1, Bristol, 20.9, Birmingham 23.8, Liverpool 31.4, Manchester 33.6; in Glasgow it was 29, in Dublin 43. Pulmonary diseases, scarlet fever, and whooping cough were most prevalent; only 13 deaths were reported from diphtheria. Small-pox was still fatal in Dublin and London, with an increased fatality in the latter. Fevers are still prevalent in India, cholera less so. Small-pox is still prevalent in Paris, Vienna, and Budapesth, and especially so in St. Petersburg. Typhoid fever prevailed in Paris, and with typhus was very fatal in St. Petersburg; diphtheria in Paris, Berlin, Dresden, Munich, and Vienna.

Surgeon-General Woodworth reports increased destitution and mortality in Brazil, a single case of yellow fever quarantined at Key West, and that the various European governments, including England, are taking precautions against "the plague," which he advises for this country. The great mortality in some small villages of Astrakhan is said to be due largely to destitution and bad sanitary arrangements; the evidence is not clear as to the extent of "the plague," nor as to the probability of its spreading widely.

Suffolk District Medical Society. — A regular meeting will be held at the hall, 19 Boylston Place, on Saturday evening, February 22d, at seven and a half o'clock. The following papers will be read: —

Miss Louise S. Baker. A Subject connected with Medical Practice.

Dr. F. H. Davenport. A Case of Thrombosis following Operation for Laceration of the Cervix.

Dr. Calvin Ellis. Two Cases of Dilated Bronchi.

Supper at nine o'clock.

Books and Pamphlets Received. — The Germ Theories of Infectious Diseases. By John Drysdale, M. D. London: Baillière, Tindall, and Cox.

Diphtheria: Its Causes, Prevention, and Treatment. By J. H. Kellogg, M. D. Published by the Good Health Publishing Company, Battle Creek, Michigan.

Twelfth Annual Report of the Massachusetts College of Pharmacy. 1878–79.

Malposition of the Ureters. By W. H. Baker, M. D. (Reprint.) New York. 1878.

De l'Accouchement artificiel par les Voies naturelles substitué à l'Operation Césarienne post Mortem. Par le Docteur A. Thévenot. Paris. 1878.

The First Annual Report of the Presbyterian Eye and Ear Charity Hospital, Baltimore, Md. 1879.

Fourth Report of the Salem Hospital. 1879.

Twenty-Sixth Annual Report of the Pennsylvania School for Feeble Minded Children. West Chester, Pa. 1878.

Proceedings of the New Hampshire Pharmaceutical Association at the Fifth Annual Meeting. With Reports on the Progress of Pharmacy and the Address of Professor W. P. Bolles, of the Massachusetts College of Pharmacy, Roll of Members, and Pharmacy Law. Concord, N. H. 1879.

Thirteenth Report of the Trustees of the Connecticut State Hospital for the Insane. 1879.

Health and How to promote it. By Richard McSherry, M. D. New York: D. Appleton & Co. 1879. Pp. 185.

Index Medicus. A Monthly Classified Record of the Current Medical Literature of the World. Compiled under the Supervision of Dr. John S. Billings, Surgeon United States Army, and Dr. Robert Fletcher, M. R. C. S. Eng. Vol. I. No. 1. New York: F. Leypoldt. 1879.

Aphasia or Aphasic Insanity, Which? A Medico-Legal Inquiry. By Dr. C. H. Hughes, St. Louis, Mo.

Address of W. O'Daniel, M. D., President of the Medical Association of Georgia. Delivered at the Twenty-Ninth Annual Meeting.

On the Treatment of Pulmonary Consumption by Hygiene, Climate, and Medicine. With an Appendix on the Sanitaria of the United States, Switzerland, and the Balearic Islands. By James Henry Bennet, M. D., London. Third Edition. Philadelphia: Lindsay and Blakiston. 1879. (From A. Williams & Co.)

Section-Cutting. By Dr. Sylvester March. With Illustrations. Philadelphia: Lindsay and Blakiston. 1879. (From A. Williams & Co.)

Report on Aconitia in Trigeminal Neuralgia. By E. C. Seguin, M. D. (Reprint.)

Clinical Lecture on Syphilitic Brain-Lesions. By E. C. Seguin, M. D. (Reprint.)

A Contribution to the Medicinal Treatment of Chronic Trigeminal Neuralgia. By E. C. Seguin, M. D. (Reprint.)

American Clinical Lectures. Edited by E. C. Seguin, M. D. Vol. III., No. 12. The Diagnosis of Progressive Locomotor Ataxia. By E. C. Seguin, M. D. New York: G. P. Putnam's Sons. 1878.

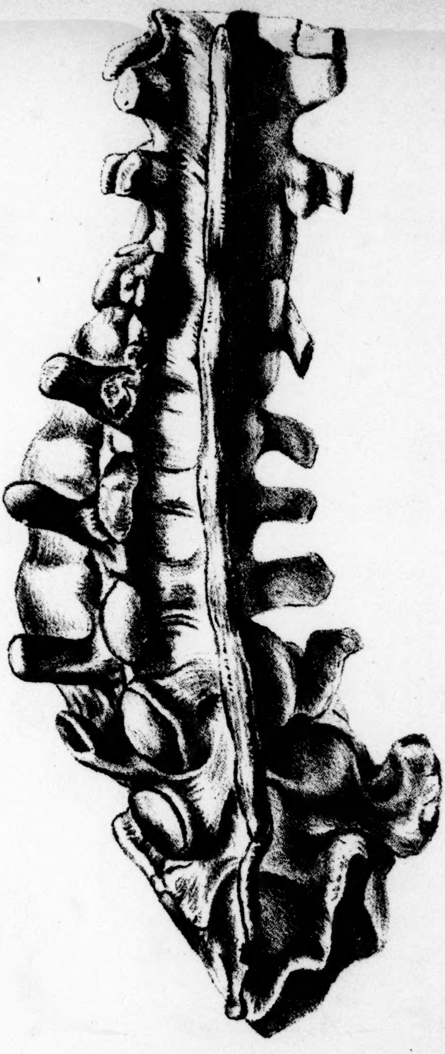

PLATE 1.

DRAWING OF THE SPECIMEN FROM WHICH THE CAST REFERRED TO IN THE TEXT WAS TAKEN, EXEMPLIFYING THE NEARLY STRAIGHT LINE OF THE SPINOUS PROCESSES WITH VERTICAL ROTATION OF THE VERTEBRÆ IN LATERAL CURVATURE OF THE SPINE. POSTERIOR VIEW.

(From Adams)

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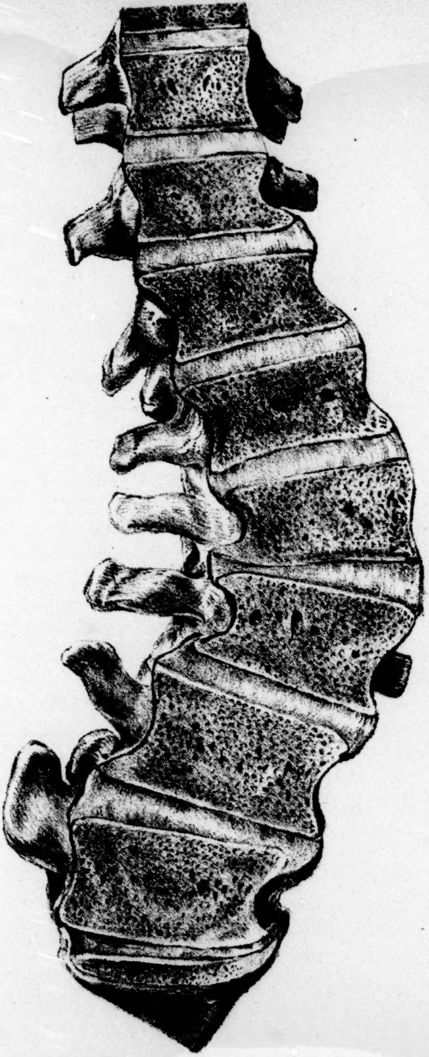

PLATE 2.

DRAWING OF THE SAME SPECIMEN FROM WHICH PLATE 1 WAS TAKEN. ANTERIOR VIEW. APPEARANCE AFTER SECTION OF VERTEBRÆ AND CARTILAGES.

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